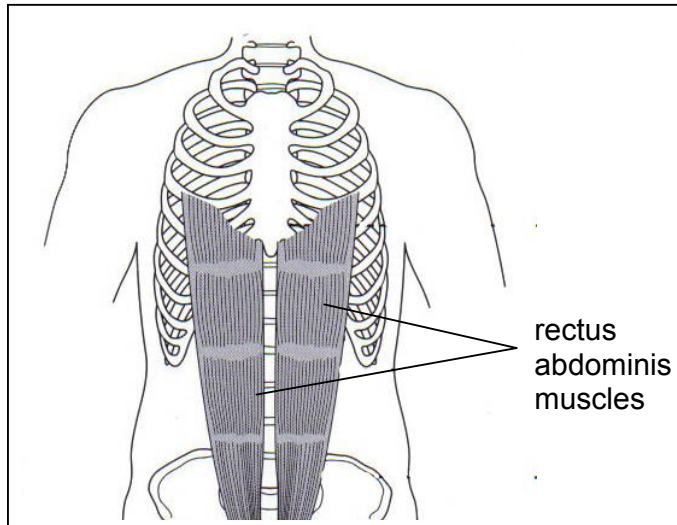




## DIASTASIS OF THE RECTUS ABDOMINIS MUSCLES



Diastasis of the rectus abdominis muscles is a separation of the connective tissue joining the two strap like muscles down the middle of the abdomen. As the foetus grows, the abdominal wall muscles and their connective tissue attachments widen and stretch to accommodate the growing foetus. A diastasis recti occurs when the linea alba, the connective tissue joining the two rectus muscles, widens and splits. This split can affect the ability of the abdominal wall to dynamically stabilise the trunk and may contribute to pelvic floor dysfunction, back and pelvic pain and post-natally.

The rectus abdominis muscles lie anteriorly in the superficial abdominal wall, joined by the linea alba. The linea alba is made from collagen by the intertwining of tendinous fibres of muscles of the left and right sides of the anterolateral abdominal wall. The anterolateral abdominal wall has 3 layers of muscle. The most superficial muscle layer is the external oblique, the middle layer is the internal oblique and the deepest layer is the transversus abdominis muscle. The aponeuroses (connective tissue attachments) of each muscle layer contribute to the linea alba. A diastasis recti therefore affects the function of all the muscles of the abdominal wall. The lumbosacral fascia and thoracolumbar fascia transmit forces generated by the abdominal muscles to circumferentially support the spine. Stable fascial attachments are essential for the abdominal musculature to transmit their forces in appropriate directions. The disruption of the fascial attachments of the abdominal musculature reduces this ability of the abdominal muscles to stabilise the spine. Just like a weak link in a chain, a problem with the attachments of the muscle to surrounding structures will reduce its ability to work as it should.

A diastasis recti has a number of implications for the post natal woman. Alterations of a muscle's angle of insertion will influence its line of action or pull and hence the muscle's functional capabilities. There are changes in rectus abdominis length, width and angle of insertion seen after delivery, which are associated with a reduction in the ability to stabilise the lumbopelvic area (Gilleard & Brown, 1996). A reversal of the separation is seen by 4 weeks after delivery if it is going to occur automatically (Gilleard & Brown, 1996). A separation persisting after 4 weeks post-natally is likely to disrupt the function of the abdominal musculature. This may be a factor in persistent post natal lumbar, pubic symphysis and sacroiliac pain and even incontinence due to the interaction of the pelvic floor and abdominal musculature as a stabilising unit.

Treatment consists of retraining the action of the various layers of the abdominal wall. It is imperative the exercise program does not further compromise the abdominal wall. Exercising too strongly or in an incorrect way can further increase the diastasis recti.

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This is commonly seen when women do sit ups after delivery. A sit up is a poor way of improving abdominal muscle function after delivery.

At 'The Physiotherapy Clinic' we utilise a number of strategies to ensure optimal abdominal wall and pelvic floor function. The use of real time ultrasound to image transversus abdominis and the pelvic floor muscles allows accurate and immediate biofeedback for the patient to learn to activate these muscles appropriately. We can now see the action of the pelvic floor through the abdominal wall via ultrasound. This allows us to screen the pelvic floor function and determine whether further specific pelvic floor assessment is required.

As the exercise program progresses the patient learns to use the more superficial layers of the abdominal wall while maintaining the corset action of the deep stabilisers (transversus abdominis and pelvic floor) to avoid further separation of the rectus muscles. Once the patient can successfully stabilise her separation she can progress to our 'Post Natal Pilates Classes' to continue exercising the abdominal wall in a safe, controlled and well supervised environment. Anecdotally, we find almost all new mothers have reduced their separation to one finger or less after 6 weeks of exercise classes, independent of the size of separation or length of time since delivery.

Please don't hesitate to contact one of our physiotherapists for further information.

#### References

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